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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,725	01/24/2001	Yoshihiro Izumi	55565(820)	1222
21874	7590	10/21/2003	EXAMINER	
EDWARDS & ANGELL, LLP			NGUYEN, DUNG T	
P.O. BOX 9169			ART UNIT	
BOSTON, MA 02209			PAPER NUMBER	

2871

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/768,725	<b>Applicant(s)</b> IZUMI ET AL. <span style="float: right;">W</span>	
	<b>Examiner</b> Dung Nguyen	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-9,11-12 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
       Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
       If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
       a) ☐ All    b) ☐ Some \* c) ☐ None of:  
           1. ☐ Certified copies of the priority documents have been received.  
           2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
           3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
       \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
       a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

**DETAILED ACTION**

Applicants' amendment dated 07/16/2003 has been received and entered.

Applicant's arguments with respect to claims 1 and 6 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukunaga et al., US Patent No. 5,706,064.

The above claims are anticipated by Fukunaga et al. figure 2A which disclose a liquid crystal display (LCD) in which an active matrix substrate having electrode wiring lines (221, 222) arranged in a matrix form, a plurality of active elements (thin film transistors TFTs) and a plurality of pixel electrodes (224), wherein the pixel electrodes are formed of a transparent conductive oxide film (e.g., ITO) made of a sol-gel material (col. 5, lines 44-46).

It is noted that the limitation of “in a process preceding processes forming any constituent members of the electric wiring lines and the active elements” recites a one-step process which does not further limit the structure of the claimed LCD device. Therefore, the process limitation does not have patentable weight. See MPEP § 2113.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga et al., US Patent No. 5,706,064, in view of Akiyama et al., US Patent No. 5,986,724.

Regarding claims 2, Fukunaga et al. disclose the claimed invention as described above except for the pixel electrodes formed prior the electrode wiring lines and the active elements. Akiyama et al. do disclose a pixel electrode can be formed so as no electrode wiring lines or an active element exists between the pixel electrode and a substrate (see figure 38). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to form the Fukunaga et al. pixel electrode prior to form the electrode wiring lines and the active elements as shown by Akiyama et al. in order to avoid deterioration caused by a high temperature in a sol-gel process (see paragraph bridging columns 28 and 29).

Regarding claim 4, the limitation of “the sol-gel material forming the pixel electrodes ... are treated with heat...” (emphasis added) recites a one-step process which does not further limit the structure of the claimed LCD device. Therefore, the process limitation does not have patentable weight. See MPEP § 2113.

***Allowable Subject Matter***

5. Claims 6-9 and 11-12 are allowed.

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6. The following is a statement of reasons for the indication of allowable subject matter:

None of the prior art of record discloses or suggests alone or in combination that an active matrix substrate fabricating method comprising the step of forming pixel electrodes of a sol-gel material in a process preceding processes forming any constituent elements of the electric wiring lines and the active elements as set forth in claim 6.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 703-305-0423. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7726 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

DN  
10/18/2003



**Dung Nguyen**  
**Patent Examiner**  
**Art Unit 2871**